Industrial Finishing

Reg. U. S. Pat. Off.

Devoted to Product Finishing in the Factory

Vol. IX, No. 7 **MAY, 1933** **$2.00 a Year**

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Letters from I. F. Readers

The names and addresses of those whose letters and inquiries appear in this department may be had by writing this office, or letters addressed to them in care of this office will be forwarded promptly.—The Editor

Air Rubbing Machines

We are interested in flexible air rubbing machines, and will appreciate it if you will give us the names of concerns who handle this equipment.—K. C. Co. (Scales & Store Equipment).

French Graining Paper

We are manufacturers of metal radiator enclosures and shields, graining them by hand to imitate mahogany or walnut, but not as we really wish them to be. We understand there is on the market a product called "French Graining Paper," that produces grain similar to photographic wood reproductions. If you have in your files the record of such a concern, we will greatly appreciate receiving same.—N. D. Co. (Ornamental Metalwork).

Who Makes "Durako"?

We have tried for a number of months to locate the concern that manufactures "Durako" finishing material. At this time we have a bid for one of the State Institutions here (Texas), and they require that this merchandise be finished with "E-1 Durako." We assume this is a varnish, but are not certain. Will you please make every effort as soon as possible to locate this manufacturer, or give us some information regarding same?—N. T. Mfg. Co. (Furniture).

Whirling Machine Finish

We are very much interested in an article which appears in the March number of the INDUSTRIAL FINISHING Magazine, on pages 11 and 12, displaying a Barrett machine for enameling articles by whirling. We shall be glad if you can put us into touch with the makers of this machine, so that we may obtain full information as to the price, method of working, and, if they have a representative in this country, where such a machine can be inspected.—T. L. & Co., Birmingham, England.

Finish Buttons by Whirling?

We are interested in an article that was run in the March issue of INDUSTRIAL FINISHING. The title was "Enameling Small Articles by Whirling" by L. J. Barrett (pages 11 and 12). We would like to have you send us the name and address of the firm that makes the machine described.—X. C. Works (Washable Buttons).

Band Instrument Finish

Editor's Note: An inquiry under the above heading in November issue (page 43) came from a manufacturer of band instruments, and, as a result, the instrument maker was placed in touch with several finish manufacturers and other concerns which had a similar problem—that of getting a lasting, durable, clear lacquer finish

on highly-polished, smooth, bright metal surfaces. Wondering what degree of success resulted, we wrote the band instrument manufacturer recently and received the following reply:

"Answering your letter of April 10th in which you inquire about the lacquer suitable for using over polished brass, we have made quite a few tests with lacquers from various companies and, although the lacquers submitted as samples proved superior to anything we have had heretofore, we cannot frankly say that any of them has answered our expectations under test.

"While trying out various lacquers, we have run across a material which we apply like lacquer but which, in reality, is not. This material has proved to be about the best thing we have ever had. We have had a saxophone out in use for approximately 60 days and, upon close inspection, after being in use over 200 hours, showed no defects such as have shown up after being sprayed with the best lacquers.

"Our Engineering Department is continuing investigation along the line of this new material and it will probably take a few more months before something definite is decided upon."—F. D. D. (Superintendent of Drum Division).

Rust Preventative Wanted

On page 14 of April, 1933, INDUSTRIAL FINISHING, reference is made to trademarked preparations for the removal of rust and for the prevention of rust on metal surfaces. Will you kindly supply me with the name and address of the manufacturer of these materials?—X. F. Co. (Electrical Supplies).

Offers Graining Machine

We have just noticed an inquiry in April issue, page 3, from M. W. & Co., Ltd., Glasgow, Scotland, concerning a printing machine.

We have in our possession a printing machine that will print figured walnut, mahogany, oak, marble, ash, curly maple, or any other desired wood. This machine is fully automatic, and has an automatic feed which will center all impressions to the exact center of the piece being printed, no matter what size piece is being run through the machine. The machine is electrically driven with a 220-volt, 60-cycle, 3-phase, AC motor.

We have rolls for butt walnut and Japanese ash. Other rolls can be se-

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for Industrial Use
Pyroxylin Lacquer
Finishing Varnishes
Synthetic Enamels
Baking Enamels
Primers and Surfacers
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Koppers Bldg., Pittsburgh, Pa.

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$11.50
A low priced high quality spray gun. Wonderful coverage and atomization. Works on your small compressor. No better finish with large high priced gun.
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Time and Money
C.V.C.
FLAT VARNISH

is ideal for the manufacturer who desires to obtain a velvet-like finish or rubbed appearance *without rubbing*. C. V. C. Flat Varnish can be sprayed or brushed; has wonderful flowing and leveling properties; is waterproof, elastic, HARD DRYING—dries overnight. Suitable for almost any surface—vending machines, desks, safes, furniture, etc. Complete information and prices on request.

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CLEAR METAL LACQUER

An extremely hard, durable lacquer of excellent adhesion.

An ideal hardware lacquer making it highly satisfactory for a wide variation of products.

It stops spotting out. It will preserve and protect the finish of your product.

Try this lacquer and become convinced

THE STANLEY CHEMICAL COMPANY
East Berlin, Conn.
Lacquers Synthetic Enamels Japans
A subsidiary of The Stanley Works, New Britain, Conn.

cured at $332 each. The original cost of this machine without rolls was $2,000 and the cost of these rolls, which have been slightly used now, was $332 each. We used the machine about six months, and would be glad to hear from this party if they are interested in this machine, which is fully automatic and gives excellent reproductions. We are anxious to get in touch with these people immediately.—D. G. Co. (Low Priced Furniture).

Sprayed Lead, a Silencer

On page 30 of your April issue you published a letter of a manufacturer interested in a silencer paint.

It will interest you to learn that sprayed molten metal coatings, especially sprayed molten lead, applied by MetaLayeR, have frequently been used for silencing purposes. A surface of lead applied on steel will exert the well-known sound-deadening effect of lead sheet and the application of sprayed molten lead, by means of MetaLayeR, is almost as simple as the application of a paint, yet metallic lead will be of a much more permanent nature than a paint where the ageing effect of the vehicle leads sooner or later to brittleness and cracking.—Metal Coating Co. of America.

Water-Resistant Finish

We manufacture adjustable unit wood blocks, mostly made in oak and maple, ¾ and 1½-in. thick. This flooring is for use in new Government Post Offices. They specify the flooring shall have moisture-proof coating, applied at the factory, to prevent absorption of moisture in transit to the job. What we desire to get is an inexpensive, good penetrating finish. In other words, we would like this to dry in 12 hours, leaving no residue. Any information you can give us along this line, will be appreciated.—T. X. I. (Fine Hardwood Floors.)

Polished Metal Lacquer

An inquiry under the above title in Dec. issue (page 42) prompted us recently to follow this up and ask the manufacturer of revolving doors whether or not he had adopted any of the several finishes referred to him. He wanted, for the polished brass surfaces of his doors, a clear

(Continued on page 31)

Finishing and Decorating

Fire Fighting Apparatus

Frank A. Smith, Paint Shop Foreman
in collaboration with
Louis B. Kaser, Service Department
The Seagrave Corp., Columbus, Ohio

Motor Propelled Fire Apparatus

THE day of horse drawn fire-fighting apparatus has passed and in its place we have the modern, up-to-the-minute motor driven juggernaut that can, when the occasion arises, attain a speed of 60 to 70 miles per hour. And upon arrival at the location of the fire, it can pump water at the rate of from 500 to 1300 gallons per minute, varying according to the capacity of the apparatus. Or, if it is an aerial ladder truck, possibly it can swing an 85-ft. ladder up to a skyscraper and rescue someone trapped high above the street level.

The same changes have been taking place in the line of finishing materials. Before the introduction of quick finishes, it occasioned no surprise if a ladder truck or pumping engine remained in the paint shop for a period of 21 to 28 days. But since lacquer and other quick finishing materials came into almost universal use it is now possible to have a truck ready to ship in seven days.

Our two greatest assets, we believe, are expert workmanship and the use of the best available materials that money can buy.

At this point we might mention that all parts such as bodies, frames, fenders, side aprons, hoods, etc., are made up in advance for stock. All have been thoroughly cleaned and primed, except in case of a specially designed truck. In that event, these parts are, of course, made up to suit as the truck progresses through the factory, and are primed after all fitting-up has been completed.

When a contract is received the specifications are made up and placed in the factory. Then the necessary parts are drawn from stock and the assembling of the truck begins. When the truck has been built up complete and ladders have been fitted, it is then ready for a road test which lasts two or three days. It is then brought in for pump test; after being given an OK it is released to the paint shop.

Cleaned, Masked, Primed, Puttied

The entire truck is then inspected and thoroughly cleaned of road grime, which of course means tar, mud, grease, etc., by the use of gasoline, alcohol and a special

acid neutralizing factor which is used on aluminum castings and galvanized iron water tanks.

After cleaning and sanding, the truck is then masked and a thin coat of oxide primer is sprayed over the entire job. Allowing at least overnight to dry, and sometimes longer, we then spot-putty the surface wherever necessary. This is followed next day by a putty-sanding operation, which when completed is followed by a very light spray coat of pyroxylin primer. This is followed in turn by four double coats of pyroxylin surfacer.

Next day the truck is rubbed to a surface, the workman using water and No. 220 waterproof paper. When thoroughly dry and clean it is ready for the application of color.

Color, Rubbed, Clear Lacquer

Colors, of course, are mostly shades of red, but occasionally a purchaser specifies ivory, white, gray, green or even yellow. Upon the color specified, depends largely the number of coats to be applied —the various shades of red averaging four double coats, and so-called "specials," as many as necessary to insure proper coverage.

Next comes the color-rubbing operation, with excellent results being obtained by using No. 320 and No. 400 waterproof paper and soap and water. When this is completed a mist coat of slow-drying thinner is sprayed over the parts to be polished, and all other places are double coated with a very substantial grade of clear lacquer.

Now the reader must understand that in between some operations, or while some material is in process of drying, quite a number of other operations are taking place—such as painting the gear, the engine, under the frame and fenders, inside the body, etc.

Polished, Striped, Decorated

The next operation is hand polishing, using a standard rubbing compound which brings out a very high luster finish. The truck is now ready for decorating and striping, which is all done by hand. Sometimes the decorating is very elaborate and sometimes it is just the opposite—very plain—all according to the wishes of the fire chief or other authorities. We have noticed a trend toward the plainer type of decoration, that is, fine striping and not so much fancy work, scrolls, etc. While on this subject, it is a noticeable fact that some municipalities try to out-do their neighbors in the matter of decorative effects; especially is this true among volunteer fire companies in the smaller communities.

The decoration process consists of applying a size to the parts to be striped and when the size has reached a certain degree of tackiness, gold leaf is applied. This is later edged with black or any color desired.

Final Assembly; Road Test

When the decorators have finished their work the truck goes to the final assembly line where running boards are covered, lanterns, hose, extinguishers and other equipment are mounted. Hood, seat, gasoline tank, etc., are installed in proper position. The truck is now ready to operate under its own power and is taken out on the road for a short test, particularly for starting, braking power, and acceleration. It is then given a final pump test.

When the final inspector releases the apparatus it is returned to the paint shop for final touch-up and is cleaned and waxed, after which photographs of the completed job are taken for future reference. The truck is then ready for loading for shipment, or on rare occasions driven overland, to destination.

This, we believe, covers about every phase of the progress of the truck through the paint shop.

We would like to add a few remarks about the paint shop itself. It is modern and up-to-date in every respect, especially the electric lighting system, which must be seen to be appreciated. We have a very large room, well ventilated by three window fans. There is one spray booth which is equipped with a ceiling fan. In addition to the artificial lighting there are windows and skylights in every position of advantage. In other words, there are no lighting possibilities, or other conveniences, overlooked to enable the workmen to produce a first class, high grade, lasting finish.

Principles of Color Mixing

THE following general instructions will assist in mixing enamels to obtain intermediate shades. There are three colors, yellow, red and blue, which may be considered primary for the purpose of color mixing. In addition, white and black must be considered in color mixing. With these primaries combined in different proportions, almost any color can be obtained.

Combinations are made thus:

Red & Yellow (make).....Orange
Blue & Yellow .....Green
Blue & Red.....Purple

Admixture of white with any given color produces a lighter color or tint:

Blue & White (make)...Light Blue
Bluish Green & White....Turquoise
Yellow & White.....Ivory
Vermilion & White.....Flesh
Black & White.....Gray

Admixture of black with a color produces a duller color or shade:

Red & Black (make).....Brown
Blue & Black.....Slate
Green & Black.....Olive
Purple & Black.....Plum

Perhaps the greatest difficulty in color matching is to prevent dulling or graying of a bright, pure color. Black and white always give gray, and each pure color has its complementary which if mixed with the pure color will give a dull, neutral gray.

A list of pure colors with their complementaries follows:

Color	Complementary
Red	Bluish Green
Orange	Greenish Blue
Yellow	Reddish Blue
Green	Bluish Red
Blue	Orange Yellow
Violet	Greenish Yellow
White	Black

Any one of the above colors plus its complimentary color produces Neutral Gray.

If these combinations are kept in mind, it will be much easier to prevent the dulling of bright colors in color mixing.

In making up a new color, use a very small quantity at first in a small can, noting the proportions of the various colors employed. Make up the larger batches according to the same proportions.

Colored enamels always darken on drying. It is well to remember this, as errors are often caused by considering a mixture a match from a wet sample or before it has dried when applied. With gray it is necessary to allow it to dry for at least twelve hours before deciding it is a match.—*From Du Pont Color Card of Enamels.*

Finishing Materials and Methods for

« Bar Fixtures — II »

Second installment of an informative and timely article supplied by finish manufacturers in reply to numerous inquiries about alcohol-resistant finishes for fine hardwood fixtures and accessories—in new finishing and refinishing.

IN CONTINUING this article, which began on page 6 of April issue, readers of INDUSTRIAL FINISHING are reminded that this is published in response to numerous requests for information about —1) how to finish bar fixtures, counters, table tops, trays, seats, etc., 2) whether varnish or lacquer should be used, and 3) what concerns can supply suitable finishes that are resistant to alcoholic beverages, soap and water washing, hot grease, hot plates, and abrasion. Letters came from concerns that had received inquiries from present and prospective buyers and users of fixtures and accessories to be used where beer and perhaps other liquors will be sold and served.

Representative advertisers of finishes suitable for this work have promptly cooperated with INDUSTRIAL FINISHING in furnishing specific and practical information about the latest recommended materials and methods. In addition to answering the questions of various fixture finishers and refinishers, *this informative data is also applicable to the finishing and refinishing of other fine woodwork.*

Maas & Waldstein Co.

G. KLINKENSTEIN, chief chemist of the above named company says:

We have tried to make this procedure as complete as practical without making it unduly lengthy. This procedure covers the finishing of new wood barroom fixtures. In connection with refinishing, the same general procedure may be followed. If it is just a patch job then what is said in the last paragraph about "Patching" applies. If it is an all-over job then it will be necessary to have the old finish removed by scraping or with a lacquer thinner and the wood brought up from this point as a new job.

Preparation of Raw Wood—On fine work it is advisable to first glue size the raw wood and then sand smooth with No. 0 sandpaper after it is thoroughly dry. The glue size consists of about one cup liquid glue, such as is used in gluing operations, to a pail of water. This is applied with a sponge over the entire surface to

be finished. For cheaper work, the glue size may be eliminated.

Filling—We recommend natural paste wood filler to which enough japan colors are added to get the desired shade, or colored wood fillers made with japan colors. The amount required depends upon the shade. It is very important to avoid using any wood filler or japan colors which contain oil-soluble aniline colors, as they will bleed out into the lacquer and result in a gray appearance in the pores.

Beech, on account of being a close-grained wood, does not require filling although filler serves as a sealer and will prevent the lacquer from penetrating and thus will give better body. To about 16 to 18-lbs. of filler, add one gallon of turpentine. Apply with a brush and allow to set about 20 to 30 minutes. Then rub across the grain with burlap or sea grass. The filler should be allowed to dry 24 hours at room temperature or 12 hours in a kiln at 110°F.

Sealing—A spray coat of combination stain and sanding sealer is used. This is quicker drying and easier sanding than shellac. Combination stain and sanding sealer may be sanded in 30 to 45 minutes after application.

Lacquer—The work is now ready for application of alcohol-resisting lacquer No. 806. The spray gun should be held about 10-in. from the work. Spray fairly wet coats. Apply in parallel strokes across the entire piece, overlapping the edges about one third on the return strokes so as to get a uniform thickness of lacquer. While still wet, do likewise with cross strokes at right angles, similar to practice when using a hand brush on varnish. Do not apply coats too heavy, as runs or sags on the vertical sides will result. Flat tops may be sprayed somewhat heavier, starting at the edge nearest the operator and working toward the far edges to avoid spray dust on the surface which is already sprayed. Allow about 2½ to 3 hours between coats. Repeat above using 3 to 4 coats for full finish. For open-pore finishes, less coats are required. After the final coat, allow to dry about 24 hours. If rubbed sooner than this, a shrinkage may appear later.

Rubbing for Satin Finish—Use paraffin oil, thinned with benzine if too heavy, and No. 00 pumice stone on burlap or felt rubbing pads. This gives a satin finish, and better results are obtained with water instead of oil on large surfaces, as it cuts quicker—or use a polishing compound on burlap or felt pad.

Polishing—After rubbing to a satin finish, follow with No. 3/0 or 4/0 pumice; then clean off and follow with rottenstone and water in preference to oil, as the former produces a higher gloss. Use on a soft felt pad either by hand or on a machine. Remove any oil or water from surface, as well as any traces of pumice stone, with a moist cloth or chamois.

Cleaning—Apply the following mixture on a soft cloth: 25% raw linseed oil and 75% pure turpentine, or use polish and cleaner. Wipe dry with clean cloth.

Patching—If any corners are rubbed through, use mixture shown under the paragraph head "Sealing." Alcohol-resisting lacquer may be used to patch dents by allowing it to body up through partial evaporation and applying with a small pencil brush. Allow to dry overnight and then shave down with a scraper or rub with sandpaper on a block. The "burning-in" operation with stick shellac may also be followed in the usual way.

(Continued on page 24)

North Bergen Varnish Corp.

We are pleased to report the following additions to our sales force:

G. M. Ferguson, will have charge of the territory in upper New York State. Mr. Ferguson is well known in his territory where he has successfully built up business for the past 18 years.

Mr. J. Rosen, will be in charge of the Trade Sales and Maintenance Division. Mr. Rosen is an experienced paint man and has been successful in the paint and varnish sales for over 20 years.

C. M. Purdy, will represent our company in New York and New Jersey; Trade Sales and Maintenance Division.

An oblique, tilting, tumbling barrel, steam heated and electrically driven.

Using a Heated

TUMBLER

for Cleaning, Drying, Polishing and Waxing Many Small Articles

by Albert Pott
Sales Manager
The Baird Machine Co.

THE OBLIQUE, tilting, tumbling barrel, as pictured above, is useful for all the operations named in the title, and many others. Machines of this type are made with built-in motor drive or belt drive, and for electric or steam heat. In the electrically driven machine (as illustrated here) the motor is mounted below the barrel shaft so that it also serves, in a way, as a counterweight to the barrel. This machine has a tilting, tumbling barrel jacketed by an outer metal barrel.

In the case of a barrel designed to be heated by steam, live steam is circulated within the enclosed space between the two barrels. Steam doesn't come into direct contact with the parts to be treated, but is circulated within the double walls of the barrel to furnish whatever degree of heat is desired. Adequate provision is made to carry off the water of condensation and low temperature steaming.

Temperatures obtainable within the barrel range from that of moist, saturated steam of only 1 or 2-lbs. (or less) pressure to that of the more dry and gaseous steam under higher pressure—as governed by specified safety limits of the barrel. Owing to the barrel's shape, coupled with its revolving feature, a perfectly even and concentrated heat is provided throughout its interior space, the temperature of the contained air being

WHITENESS

IN A SYNTHETIC WHITE ENAMEL

ZAPON S 70
ZAPON S 74

ABSOLUTELY non-yellowing — Zapon Synthetic White Enamel — because it's the correct synthesis of carefully selected ingredients. Use S-70 for bake finishing, or S-74 for air drying.

Sprayed, dipped, brushed—always a brilliant, lasting white. One coat covers—opaque, lustrous. Takes to clean metal or wood. Stands 25% thinning.

Finish your product with this better, economical, white synthetic. It sells kitchen cabinets, cake boxes or tin soldiers —faster, easier, with more profit.

S-70 For Bake Dry **S-74 For Air Dry**

"The Standard of Quality Since 1884"

THE **ZAPON** COMPANY

ZAPON

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STAMFORD, CONNECTICUT

nearly equal to that of the heated metal surface of the barrel itself.

Barrel Shape, Size, Speed

A typical barrel on one of these power driven machines is about 25% smaller in diameter at the top than at the bottom, and the top is open for filling and emptying. It can be closed with a lid, while in operation, but is usually left open. The depth of the barrel measures about the same as its bottom diameter. In operating position it tilts upward at an angle of about 33° from horizontal position, but for dumping it tilts down far enough to spill its entire contents. The speed of rotation ranges usually from 35 to 45-r.p.m. for barrels 20 to 28-in. in diameter, the slower speed being recommended for the larger barrels.

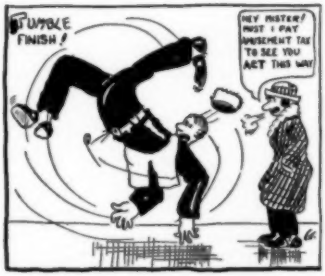
The steam heated tumbling barrel was originally designed for drying small metal articles or parts after they had been washed in cleaning compound to remove the oil and grit of manufacture. Its possibilities for other work were soon recognized in several industries, and now barrels of this type are employed in many ways—for example, for heating liquids while keeping same agitated to prevent burning; for drying powders, for coating nails and the like with wax, paraffin or rust-proofing compositions; for coating small articles with finishing materials and for obtaining extra polish or luster on many products, especially where heat is a contributing factor.

Drying with Sawdust

For drying small articles that have been washed, an ideal condition is such that the smallest parts or surfaces are exposed to an ever-changing and perfectly dry absorptive medium. Such a medium might be a current of air or inactive gas under either atmospheric conditions or vacuum; it might be of the nature of sawdust, felt, a chemical, or other material having moisture-absorbing qualities greater than the product being dried.

Practical experience, backed up by theory, has shown that where the nature of the product allows—as in the case of small metal or other products, powders, and the like—drying can be accomplished quickly and at small cost where such products or materials are caused to flow or roll in a continuous broken or loose stream while being subjected to a moving current of hot dry air.

This ideal condition is practically reached in the operation of the drying barrel. The revolving barrel carries its contents upward to a point where the stream breaks and rolls backward, this action being repeated at every revolution. As a result the entire surface of every article being tumbled is intimately exposed to the action of heated dry air which is fanned about by the movement of the barrel and its contents. Air circulation is induced by the difference in temperature and pressure between the outside and inside of the barrel.



NOTHING CAN TAKE THE PLACE OF Lacquer

NOTE THESE 12 POINTS OF SUPERIORITY

1 **Lacquer dries rapidly—in minutes, not hours.** When production is at peak speed, lacquer easily keeps pace. When schedules slow down, lacquer permits quick finishing and shipping as orders are received—no finished stocks need be maintained.

2 **Lacquer dries hard—and then remains unaltered.** It does not check or craze. Heat or cold does not affect it.

3 **Lacquer is print-proof.** No matter how hot the day, lacquer will not soften or "print."

4 **Lacquer is stable in the drum or can, no matter how long it may be stored.** It does not form seeds or granules, nor does it skin-over.

5 **Lacquer produces a clean surface, free from nibs, grit, and dirt.** Lacquered surfaces are remarkably smooth.

6 **Lacquer does not water-spot.** It is very resistant to the action of water—it will not whiten.

7 **Lacquer cleans more easily.** Soaps and cleaning compounds may be used freely—they cannot harm lacquer.

8 **Lacquer is stain-proof.** It resists the action of alcohol, oil, gasoline, and all ordinary stains.

9 **Lacquer does not wrinkle—all coats unite into one solid, uniform film.** Each succeeding coat merges into the preceding, welding all into one uniform, smooth film.

10 **Lacquer "touches-up" easily and perfectly.** The recoated section blends so perfectly with the surroundings that the repaired spot cannot be detected.

11 **Lacquer can be "tailor-made" to exactly meet the needs of practically every user.**

12 **Lacquer is long-lived—and retains its beauty.** Because of the resistance which lacquer offers to all destructive influences, it retains its beauty for exceptionally long periods of time.

Because of the enduring satisfaction which it brings to the user of the coated product, lacquer is the outstanding goodwill builder amongst all finishing materials for both the maker and user of protective coatings.

COMMERCIAL SOLVENTS CORPORATION

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Plants at TERRE HAUTE, INDIANA and PEORIA, ILLINOIS

IMMEDIATE SERVICE FROM STRATEGICALLY LOCATED WAREHOUSES

BUTANOL Assures LACQUER QUALITY

Drying Metal Goods

Metal and wire products are finished in many ways, but at some period of manufacture their surfaces must be dried. Drying of such products is one of those seemingly simple things that too often escapes proper attention. Such drying increases in difficulty and cost in direct ratio to the quantity handled.

Dry sawdust is an excellent drying medium. It acts as a cushion between separate pieces or parts and prevents scratching and distortion. Clean dry hardwood sawdust readily absorbs moisture. Sawdust, as used in a drying barrel, acts in three ways; it cushions one article against abrasion with another; it absorbs moisture and helps to dry the surfaces; it acts as an additional polishing medium.

The sawdust in a heated rotating barrel is not only kept hot but it is continuously flowing and rolling in a broken stream, so that every particle is subjected to currents of air that evaporate the moisture into the atmosphere and prevent its reabsorption by other particles. Clean dry sawdust flows freely like dry sand, and it touches every bit of surface on the irregularly shaped objects being tumbled with it.

How Polishing Occurs

Another important point about the operation of drying barrels is the noticeable polishing effect they produce upon tumbled articles. The sawdust, being lighter, travels higher up the inside of the barrel than the articles being tumbled. In other words, while the heavier articles move upward and fall back, the sawdust travels farther and faster. This action keeps a steady flow of sawdust passing around the products—just the same as though the products were held stationary and a generous stream of dry sawdust was allowed to flow over them from a height. As a result of this, goods dried in these heated tumbling barrels come out not only dry but polished.

In the steam heated barrel, condensed steam gravitates to the lowest point where it is picked up by a water pocket, carried to the center and automatically ejected through a hollow shaft connected by flexible hose to a steam trap.

The barrel is easily filled and emptied, and either operation can be performed, or the work can be examined, while the machine is running. The barrel can be tilted to any position within its limits.

The time required for filling a barrel to capacity, drying the work and dumping same out, will ordinarily take not much over five minutes. Both sawdust and work come from the machine bone dry, making it an easy matter to separate the two.

Separating Sawdust From Work

After tumbling a batch of articles with dry sawdust, the sawdust and articles can be separated by any one of several different methods. Perhaps the simplest and quickest way is to cap the open end of the barrel with a sieve or screen of coarse mesh, and then tilt the barrel down as is done when emptying its contents. Then rotate it slowly so the sawdust will be released through the sieve, which is now at the lowest point of the barrel. If a dust-collecting system is available a circular hood, flexibly connected to a suction pipe line, could be placed at the mouth of the barrel to pull away the released sawdust.

Another method, used in some

factories, is to dump the entire contents of the barrel and then run them through a separator. A typical machine for this purpose has an inclined hopper or tray into which the work is dumped. When in operation, this hopper is shaken or vibrated up and down, and at the same time it is given a sideways oscillation which separates the work from the sawdust or dirt and feeds the work in a thin stream down an inclined chute. As the work slides or falls down this chute it is met by a strong current of air, which, while allowing the products to pass blows the dirt or sawdust upward into a suitable bin or container.

Our own salesmen must be sold on the merchandise they are trying to sell others.

Maas & Waldstein Co.'s Chicago Branch Address Changed

Maas & Waldstein Co. (Newark, N. J.) announces that its Chicago office and warehouse have been moved farther out on West Washington Blvd. (from 1115 to 1336-38). The new quarters are larger to facilitate the company's rapidly expanding business in that territory. Mr. R. J. Hazucha continues in charge.

Thermoprene; Vulcalock

The discovery of thermoprene (1926) made possible the "Vulcalock" process (1927) a method of bonding rubber to metals during vulcanization. This process permits the lining or covering of equipment on various forms and shapes to combat corrosive and abrasive wear, thereby meeting many demands of the heavy chemical industry served by no other material. Thermoprene forms the base of lacquers capable of giving adherent, tough films which effectively resist alkalies. It is also a superior cable insulation material, low in water absorption.—B. F. Goodrich Co.

ROOSEVELT MAHOGANY

A BRAND NEW COLOR

OF

"Unquestionable Quality"

Just developed in our laboratory. Produced in a Water Oil, Non-grain-raising light-fast stain. A deep, rich color developing all the natural beauty of mahogany. It will be among the most popular shades for new fixtures and furniture.

Sample gallon of stain and filler at drum prices

V. J. DOLAN & COMPANY, INC.

MANUFACTURERS OF

"Unquestionable Quality"
Wood Finishing Supplies

1830-32 N. Laramie Ave. Chicago, Ill.

Modern Developments in Wood Finish Materials - IV

by M. J. Pearce

The Glidden Company

Editor's Note: Previous installments of this article revealed information about modern stains, fillers, sealers and lacquers of both nitrocellulose and synthetic types, in clear and flat. This, the last of the series, deals with clear and flat varnishes made of natural and synthetic gums.

FOR A TIME after the advent of clear furniture lacquer, the old style rubbing and polishing varnish took a back seat because of slow drying, lack of hardness and toughness, and other shortcomings in the old style varnish film which had been overcome by the nitrocellulose lacquer. Varnish manufacturers have been constantly experimenting, trying to speed the drying of varnish products so as to approach the working properties of lacquer as nearly as possible and still retain the higher solid content of the old style oil varnish. From the standpoint of spreading capacity, film-forming properties, and low initial cost per gallon, the oil type varnish is, and has always been, superior to lacquer; and if the fast-drying, hardness, toughness, water resistance, and other good properties of lacquer could be approached without sacrificing the solid content, varnishes would again come into their glory.

Many new synthetic resins have been developed which give promise of making this goal obtainable, although to date no so-called synthetic varnish is equivalent to lacquer for speed, hardness, toughness, or adhesion. Synthetic varnishes are available, however, which can be recoated within a few hours and satisfactorily rubbed after an overnight drying period.

On medium and low-priced furniture there has been a decided tendency to return to the use of varnish, for economical reasons only. Varnish will spread further, costs less per gallon, and will produce a finish of a given depth with fewer coats than lacquer. Therefore, where the price of the furniture is not sufficiently high to justify the cost of using lacquer, varnish is being used.

Flat-Drying Varnishes

For a long while, flat-drying varnishes have been manufactured by incorporating finely divided, transparent pigment particles in an ordinary type of rubbing varnish. These flat drying varnishes have had certain defects, such as the gray appearance in the film, poor resistance to water, and brittleness. Much development work has been done recently to improve flat-drying varnishes, and

as a result many of these defects have been eliminated. A new style of flat varnish that has only recently been developed contains little or no pigment. It does not settle or skin over in the package, it dries much faster than the ordinary type of flat varnish, and it gives much clearer results on the work.

The film of all flat-drying varnishes is necessarily not quite as tough nor durable as the same grade of clear rubbing varnish. The flatting agents all have a deteriorating effect upon the varnish, but where a rubbed effect is desired, without the expense of an actual rubbing operation, some very beautiful results can be secured with modern flat-drying varnishes.

Conclusion

It will be seen from the foregoing discussion that as a need develops in the wood-finishing industry, the finishing-material manufacturers try to solve the problem—and in many cases with success.

During the past five or six years, the development has primarily been in keeping with the increased pace of production. The cry has constantly been for faster drying, fewer coats, and lower costs. Some woodworking factories have carried this matter so far that today the finish often lasts only a little longer than the time necessary to get the article into the hands of the consumer.

After all, the finish on a wooden article goes a long way toward attracting the customer and keeping him satisfied. It would be far better to spend a little more money on the finish and build a reputation for the future.

Air filters are coming into more general use in industrial plants, one of their uses being to prevent dust and dirt from entering the finishing room.

Denny, Hilborn & Rosenbach, Inc. Goes on OK

An announcement bearing the names of Frank R. Denny and M. P. Rosenbach of Denny, Hilborn & Rosenbach, Inc., 234 N. 12th Street, Philadelphia, Pa., states:

"We are pleased to announce that we are continuing the business of Denny, Hilborn & Rosenbach, Inc. along the same lines as in the past. Your business has always been appreciated and we can assure you of the same high quality products manufactured under our own exclusive formulas and personal supervision. We wish to thank you for our past pleasant relations and hope for a long continuance of them. Your orders will have our prompt and careful attention."

VARSEAL
THE LATEST THING IN SEALERS
Equally Satisfactory Under Varnish or Lacquer
A Distinct Saving Over Shellac
THE GILBERT SPRUANCE CO.
Richmond and Tioga Sts. Philadelphia

Cheap, Quick Stain for Gum Mouldings

Referring to the first inquiry in the "Letters from I. F. Readers," in March issue (page 3), it is my opinion that the most economical and satisfactory finish to be applied to red gum for use on game tables is a certain brand of green oil stain (name on request), which has the formula printed on the wrapper of the can. Mix the stain with naphtha and a small amount of japan drier, and also a small amount of linseed oil for a binder. A single coat of this mixture, applied like any other stain, is sufficient.—T. R. NALL.

Cleaning Caked Lacquer from Spray Booth

We are anxious to know what is recommended and used for removing lacquer mist which forms in a cake in spray booths. We have never used anything directly upon the bare metal of the spray booths, but merely left the mist form on same.

It is now our desire to remove this material, so that we can apply a spray booth coating which in the future will eliminate the trouble we are now having, when it comes time to clean the booths.—M. Co. Inc. (Furniture).

You will probably have to scrape off this material with a scraping tool, as it would take considerable time and an excessive quantity of lacquer solvent, thinner or remover material to soften a heavy dry coating sufficient to make possible its removal with a scrubbing brush. Do not use a steel or iron scraper, as it may cause a spark during the process, and this might ignite the combustible refuse in the booth and cause a disastrous fire. A brass scraper is recommended.

The scraper can be made of heavy sheet brass at your own factory or in some local shop. For a handle, you might remove the bristles from an old wide paint brush and saw kerf the bristle end to receive the strip of brass. A few bolts or rivets would hold the brass firmly in place, and the working edge could be sharpened on an ordinary emery wheel.

After most of the material is scraped off, we suggest liberal application of lacquer thinner. Let this soak a few minutes and then follow with a light scraping and a vigorous wiping with coarse waste or burlap, or a scrubbing with a stiff brush. The cleaning operation may be finished off with a mild solution of lye water, or possibly a clean water rinse. Do not use any lye solution where it may come in contact with aluminum.—I. F.

Questions «Answers

Pimples on White Enameled Sheet Aluminum

We have been doing a considerable amount of experimenting with lacquer enamels on aluminum but have not been successful in doing first class work because of small specks or pimples that appear on the surface.

We use a Paasche type spray booth and have experimented with both Paasche and DeVilbiss guns. Our spray room is approximately

20-ft. square and has a 10-ft. ceiling.

While working on our samples we have used four or five different makes of materials and the equipment and paint salesmen who have called on us claim that the conditions in our spray room are exceptionally good for this type of work. Some have stated that not one spray room in a hundred is as clean as ours.

The walls and ceiling are painted white; the floor is oiled and the spray booth is coated with a spray shield which should all tend to make the room as dust-free as possible. For your reference we are enclosing a sample sheet to show the trouble that we are having.

Some of the men who have called on us claim that the material is not ground fine enough; others claim that the pimples are due to small dust specks which are in the material or come in contact with the surface before the material has dried. Our personal opinion is that the defects are caused by dust in the air, but we cannot figure out how to eliminate this.

We have tried taking in a fresh supply of air through screened windows but this has not given us any relief. After the sheets are sprayed they are placed on racks in a warming oven, which is also treated to make it dust-free.

We are wondering if you can give us any suggestions as to how to eliminate our trouble? Any information that you can furnish will be greatly appreciated.—M. B. Co.

An experienced aluminum finisher questions the cleanliness of your aluminum surface, his theory being that some of the minute pimples are really tiny blisters which have raised up from an unclean speck of surface—possibly where a flake of graphite or other foreign matter was rolled into the surface during the rolling process at the mill, and was not cleaned off later. He suggested a preliminary cleaning in a suitable cleaning solution (for example, a 4% or 5% solution of caustic soda which can be safely kept in a steel tank) followed by a clean water rinse and drying.

Our inspection of the pimples discloses possibly only one or two which might be blisters. Most of those we shaved off showed good paint adhesion underneath.

A finishing material expert suggests that the cause may be not only coarse particles of pigment, but the possibility that the solvent or thinner used in the make-up of this one coat finish is in some way

THE BLUE KNIGHT *Says*

A flat metal sheet was sprayed—then blanked and formed to make a blue and bronze gift for you. It furnishes a unique demonstration of our flexible finishing materials! If you'd like to have this specially designed vest pocket match safe, write on your business letterhead. No obligation.

Roxalin Flexible Lacquer Co., Inc.
36-40 Thirty-Sixth St., Long Island City, N. Y.

A Precision SPRAY GUN
at a new LOW PRICE
$13.00

With features found only in higher priced guns, the Crown 12B Spray Gun is an exceptional value at its new low price. Full fan spray in all positions. Round spray for close work. Instant fluid adjustment to suit type of material. May be used with quart cup, gravity or pressure paint container. Send for complete details, today!

CROWN SPRAY GUN MFG. CO.
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Chicago, 551 W. Lake St.
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ROWLAC
Prevents Alcohol Stain

A clear lacquer — waterproof — withstands 190 proof alcohol test.
Can be sprayed — dipped — brushed.

Send for a trial five gallon can at drum prices

ROWCO VELVET LACQUER SANDING SEAL

A perfect seal — efficient and economical.
Can be sanded within 20 minutes after application.

Manufactured exclusively by

ROWE PAINT CO.
43-42 Tenth Street
Long Island City, N. Y.

Our Finishing Engineers Are At Your Service

responsible—for example, not being compatible with the pigments or other ingredients, and causing the formation of pimples instead of flowing out perfectly level.

Our suggestion is that you order a batch of your material carefully strained through suitable fine mesh, either at your own plant or where it is manufactured. It seems to us that dust spots would be more evenly and more liberally distributed over the finished surface. The pimples on the sample seem to be specks of the white lacquer enamel.

The spray guns you use are good and if they are comparatively new, in good order and in proper adjustment, they should not cause any such trouble. Some finishers of sheet metal have overcome the trouble caused by dust specks, by carefully wiping each surface with a varnish tack rag just before spraying on the finish. Your finisher probably knows how a varnish tack rag is made, but in case he doesn't: Take a yard of cheap open-weave cheesecloth, saturate with cheap varnish, wring out, open up and spread it exposed to mild heat or the sun until same is tacky. Fold into a pad. When not in use, inclose tack rag in a moistened chamois skin or cloth. Make a new tack rag every day.—I. F.

Bar Fixtures—II

(Continued from page 11)

V. J. Dolan & Company

V. J. DOLAN, President of the company bearing his name, is enthusiastic about his "New Deal Lacquer," which, he declares, "will not only serve the purpose but definately satisfy the most exacting demands." His article about it follows:

It is surprising but true, that to produce even an alcohol resistant,

M&W.Co
1876
CHECKLAC
The New and Different finish. It is not a Crackle Lacquer. It Checks the Lacquer Undercoat. The Checklac is then washed off. It is a different finish with distinct sales appeal, when used on metal or wood.
Your inquiry is invited.
MAAS & WALDSTEIN COMPANY
Executive Offices and Plant
430 Riverside Ave. Newark, N. J.
Chicago Office & Warehouse
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Los Angeles Office & Warehouse
2416 Enterprise Street
The border of this advertisement is a photographic reproduction of CHECKLAC.

The TAYLOR SYSTEM of COLOR HARMONY

COLOR HARMONY exerts a powerful influence on sales of finished articles—
. . . and the Taylor System of Color Harmony solves the problem of selecting color combinations easily, quickly and always harmoniously. This system is based on fundamental, natural color laws, but is reduced to such simple chart form, that anyone can readily understand and use it—there are no books to read—it's right before you in color. No waiting. No guessing. You simply select the base color for your scheme and the Taylor Keyboard automatically shows all the colors that harmonize with your base color. *Discords of color cannot appear through the mask.*

Chart "A" of the Taylor Color Harmony Keyboard is 22 x 15 inches and shows 96 different colors. It is accompanied by two black cardboard masks which can be adjusted to show four different tones of each color. Price $5.00.

Practical Publications, Inc.
802 Wulsin Bldg., Indianapolis, Ind.

not to say alcohol-proof, finish, we must begin our work not on the final coatings, but right at the initial application to the wood. Every item employed in making up any part of the finish, must be made to conform. This means that from stain to filler, sealer and lacquer, the finish requires proper products as well as correct application.

Because of the fact that alcohol-resistant lacquers embody the use of new and different gums, which in turn require different proportions of various solvents, acetates and plasticisers, naturally the stains must be immune to these in order to prevent bleeding, bleaching or fading. Also, the fillers must be made in such a manner that the new type lacquers, (which incidentally are slower drying) do not cause them to lift from the pores, or shrink.

Assuming that up to the point of applying our first, or sanding coat, which may be either between the stain and filler, or following the filler, regardless of how thin or light this coat may be, it is just as important as the final coat, and must be alcohol proof. The same applies to each successive application.

It is somewhat surprising to find how the increased cost of these new type lacquers may be absorbed and in fact, frequently converted into added profit. Of course it should not be necessary to use them on all pieces of furniture, but particularly on table tops, desk tops, or exposed flat surfaces. Assuming that the added cost per gallon for the best types may run approximately $1.00 per gallon above ordinary lacquers: Employing a most conservative estimate of 250-sq.ft. of finished surface per gallon, it is simple logic to assume that an average desk top or table top will have a surface of not more than 20-sq.ft., or with three coats, an area of 60-sq.ft. or approximately ¼-gallon of lacquer. If the increased cost per gallon is not more than $1.00, then naturally the cost per piece would not exceed 25 cents. In the opinion of most manufacturers, it seems the average distributor or retailer will gladly pay appreciably more than that amount for an "alcohol-proof" top. At least it's food for thought.

The Glidden Company

G. B. WORK, Technical Division, Industrial Sales Department, has this to offer:

Articles of wood should be thoroughly surfaced before going into the finishing room, and then receive the usual stains and fillers, these items being applied in the regular manner. If a lacquer finish is desired, we recommend our No. 122 Alcohol-Resisting Lacquer which is used full body. For best results, we recommend the use of this material throughout, the number of coats depending upon the fineness of the job. Usually three coats are necessary, and sometimes more are used if a real high class finish is to be brought up.

For best results the lacquer should be applied a coat per day, and a full

(Continued on page 28)

? When it's a question of beautifying your product use

PAISPEARL ESSENCE

A distinctive finish that will attract attention. Write us.

PAISPEARL PRODUCTS, INC.

65 Nassau St. New York, N. Y.

WOOD FINISHERS

WILL find our "HRT" and "CJT" rubbing tow and filler wiper products superior and more economical than other materials—durable, non-scratching, and full body for quick cutting and removal of filler after sufficient working in. Less expensive; operating time saver. Packed in bales to insure cleanliness in shops. Write us for samples and prices.

Oscar Smith & Sons Co.

Clearfield and C Sts. Philadelphia, Pa.

Zapon Veneer Sizing Lacquer

An announcement by Charles P. Reif, of The Zapon Co., Stamford, Conn., states that:

"From time to time manufacturers in the wood industry, using a glue sizing, have had trouble with high grade veneers due to staining, shrinking and checking after the veneer has been laid. These troubles can be overcome by the use of a solution developed by The Zapon Co., known as Zapon Veneer Sizing Lacquer. Besides eliminating the staining, shrinking and checking which seemed to be inherent to the glue-size method, this sizing lacquer prevents absorption of moisture. Where it is used, a much clearer finish is obtained, and the veneer itself sands better.

"Zapon Veneer Sizing Lacquer is extremely simple to use. All that is necessary is to dry the veneer in the usual factory manner. After drying and taping, this veneer sizing lacquer is applied by dipping in a mixture of two parts sizing lacquer and one part reducer, and after the sizing is applied, the veneer is laid in the ordinary manner.

"This method of laying veneer is now long past the experimental stage, and its practical working is being demonstrated by the ever-increasing acceptance it is receiving from leading veneer users."

"Pyralux," a New Enamel

The E. I. du Pont de Nemours & Co., Wilmington, Delaware, states that "Pyralux," the latest product of the du Pont laboratories, combines excellent adhesion and flexibility with its fast-drying characteristics. It gives a durable, lovely finish—economical, because the priming coat can be eliminated.

Pyralux dries dust-free in 15 minutes and is dry to handle in one hour. In seven hours it is ready to pack and can be re-coated in one hour. Forced drying, one to two hours at 150°F., greatly accelerates hardening of the film and allows handling and packing in even a shorter time.

Pyralux gives a durable, high-gloss finish to any bare metal surface. It has excellent adhesive properties and is remarkable in initial and retained flexibility. It ranks very high in hardness and print-resistance tests. The film also has good resistance to alcohol, gasoline and water.

What's New « «

Automatic Wax Aircoating Machine

Paasche Airbrush Co., 1919 Diversey Parkway, Chicago, Ill., calls attention to two types of automatic wax aircoating machines, each of which has a preheating chamber and a ventilated spray chamber in which automatically controlled spray guns spray the surfaces of materials carried through by power conveyor. The type F-2831 machine has a turntable on which rotating holders are mounted for carrying articles to be sprayed. Type F-2848 has a conveyor on which flat sheets, roll stock, shapes, etc., as wide as 60-in., can be carried through.

Auto "Refinish" for Wiping on

The Norclay Co., 1561 Swift Ave., North Kansas City, Mo., announces "Norclay Refinish—two hours to apply, two hours to dry." According to the company's literature:

"Norclay Refinish is neither a polish nor a paint . . . requires no rubbing and it contains no pigment . . . is applied by simply wip-

ing on with a saturated cheesecloth pad, using long even strokes like those used in painting. It is a fluid compound containing the ingredients usually used by lacquer manufacturers to impart luster to the product. These ingredients are combined with thinners and dryers of a type which give quick setting and entire absence of brushing or lapping marks.

"One special substance in the compound has the remarkable quality of restoring approximately the original color shade to dull and faded lacquer."

Alkali-Resisting Finish

An alkali-resisting spray finish has been announced after the manufacturer, the Steelcote Mfg. Co., Theresa Ave. & Gratiot St., St. Louis, Mo., made complete and exhaustive tests. One of the tests conducted was to make a solution of washing soda, using 1-lb. of washing soda to a gallon of water, into which solution was submerged several sprayed panels. These panels were submerged continuously for 30 days, after which time they were inspected under a microscope. The coating was found to be intact. During the test period there was a certain amount of evaporation which left a salt deposit caused by the soda solution, to be deposited on the panels; after removing this deposit the coating was still intact.

One of the features is that the finish dries in five minutes to the touch and is ready for handling in about 15 or 20 minutes, and requires neither a primer nor surfacer when sprayed over smooth metal surfaces.

Mellocraft Wax

The Mellocraft Co., Toledo, Ohio, announces a transparent liquid wax which can be applied easily with a cloth, brush or spray to produce a thin, tough, resilient coating "which is a lasting protection and preservative." A very thin coating, renewed occasionally, gives best results. Each application builds up on the previous one, and a permanent, transparent finish results which is neither greasy nor oily.

It is recommended for use on furniture, floors, walls, linoleum, woodwork, leather and imitation leather, tile, cork, paintings, art objects, etc.

Bar Fixtures—II

(Continued from page 26)

24 hours should be allowed after the last coat before any rubbing operation. In case the finisher desires to use a regular lacquer sealer in order to assist in the surfacing before the application of the finish coat, we recommend our No. 24 Parlac, which is applied full body, allowed five to six hours to dry, sanded, and then followed with the No. 122 Alcohol-Resisting Lacquer.

Where a varnish finish is desired, the staining and filling will be the same as discussed above; then we recommend that two or three coats

No TRICK Names — No TRICK Prices
But a good product — Uniform and Dependable
We Recommend
For Wood Finishing
Sanding Sealer No. 155
(Clear)
Price $1.50 per gallon
For Metal Finishing
Sanding Surfacer No. 101
(Gray)
Price $1.75 per gallon
DENNY, HILBORN & ROSENBACH, 230-34 N. 12th St., Philadelphia, Pa.
Incorporated

of our No. 41 Alcohol-Resisting Varnish be used. This material is reduced 25% with turpentine for the first coat, allowed to dry overnight, the second and third coats are used full body for spraying, allowed overnight dry after each coat, and at least 48 hours dry after the application of the last coat before rubbing.

Both the No. 122 Alcohol Resisting Lacquer and the No. 41 Alcohol Resisting Varnish have undergone very severe tests in determining their resistance to beverages of alcoholic content and have been pronounced satisfactory by many concerns on this point. They have been in production for a long time.

For the finishing of metal, we prefer to know all of the conditions before making definite recommendations, as the finishing of metal usually presents different angles from the wood finishing industry, and these angles often require special products to take care of individual shop conditions. We have baking ground coats, finishing enamels, varnishes, and metal lacquers for this type of work.

Foster D. Snell, Inc., Move

Foster D. Snell, Inc., Chemists & Engineers, have moved to 305 Washington St., Brooklyn, N. Y., where larger quarters have been provided for both their offices and laboratories. At the new address the ninth floor has been remodelled to give a well integrated laboratory with suitable units for research, microscopy, library, apparatus and chemical storage, industrial development, pilot-plant work, testing and analysis. The executive offices are on the sixth floor of the same building.

Color Card Free

An attractive and unusual color card of industrial enamels of the pyroxylin type has just been put out by the Finishes Division of E. I. du Pont de Nemours & Co., Wilmington, Delaware. In addition to samples of 32 colors, there is an informative discussion of enamels followed by suggestions for application. The principles of color mixing are discussed and valuable information on the combining of colors to obtain desired effects is given.

JONFLEX
CLOTH MASKING TAPE

For sharp color separations and accurate striping. JONFLEX is finely woven—flexible. Adheres evenly. Leaves no lint or fuzz. Highly resists paints, lacquers and solvents.

PERMACEL
PAPER MASKING TAPE

To secure improved adhesion in ALL-WEATHER. PERMACEL permits new speed and accuracy. Auto refinishers prefer it. Leaves no residue on metal or wood. Economical—use it over and over. Always produces a perfect edge.

INDUSTRIAL
CLOTH TAPE

Like JONFLEX except for slightly heavier texture. — All three REVOLITE tapes live up to the high standard established by JOHNSON & JOHNSON, the parent corporation. Use them.

REVOLITE tapes are supplied in widths from ¾" to 36" in 60 yard rolls.

FREE SAMPLE ROLLS FOR COMPARATIVE TEST

THE REVOLITE CORP.

A Subsidiary of Johnson & Johnson

NEW BRUNSWICK NEW JERSEY

Industrial Finishing
MAGAZINE

Distributed to Executives and Foremen Finishers in industrial plants where finishing coats are applied with finishing equipment

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EDITORIAL

Mechanical Polishing; Buffing

Ordinarily we think of a finish as being a coating or a number of coatings of material applied to a surface. But there are places and items where finished surfaces of metal are produced simply by polishing. Polishing, in the sense of a finish on metal, simply means the use of finer and finer abrasives on the metal by means of buffing wheels, until the metal surface is brought to a highly polished state. Many finishers have gotten into trouble with their polishing problems because they failed to consider that different metals and different products require different polishing schedules and treatments for best results.

There are many different kinds of buffing wheels. Some are made of flannel, some of felt, leather, leather-covered wood, quilted canvas, and even quilted sheepskin. Also, there are different abrasive compositions for use on these wheels. Best results demand use of the right buff and the right composition used with it. To obtain the best results in this respect you should submit your polishing problems to firms specializing in such work. Some firms have all of the wheels mentioned, and then some more, and they are quite ready to recommend the particular buff and composition suited to any given job.

Popular New Colors

Fourteen new colors for summer have just been released by the Textile Color Card Association, New York City. These include special colors which are highlights of the Paris openings, as well as other recent color developments in fashion.

Significant among the new shades are three hazy tints with a pearly glow, the colors named Nacre gray, Nacre blue and Nacre beige. (Nacre—having the peculiar iridescence of mother-of-pearl.) These soft misty tones are favored in combination with navy and black.

Yellows, which are becoming increasingly important, are shown in two new shades—Sun yellow, a radiant sunlight hue; and Liqueur yellow which, as its name implies, reflects a cool greenish cast.

Blues hold the leadership for this year and added to this favored circle are two new blues—Robin's-egg blue with a hint of green, a smart new version of turquoise; and Bali blue, which suggests the clear intense blue of tropical skies.

Of high fashion interest in the pinks are: 1) Parfait pink, the deep

luscious color of strawberry ice cream; 2) Apricot pink with its yellowish undertone; 3) Camellia red with the rich rosy red of the flower by that name.

Brilliant sharp colors will figure prominently, used alone or in combination with white. Additional new colors in this line are Chili red, and animated sports color; and Blarney green. Completing this new group of colors are Wheat beige, a pale yellowish tone; and Skymist, a light summer gray.

Insist on Safety; Use Non-spark Motors and Tools

Sparks of any kind are "bad medicine" in a great many industrial locations, and particularly in the modern finishing room. A tiny spark may cause a disastrous explosion where inflammable vapors are present. This explains, in a considerable measure, the relative popularity of air rather than electricity as a source of power in finishing rooms, and also why some electrical firms have gone to considerable trouble and expense in developing enclosed, explosion-proof motors, and switches.

But a spark from one source is just as dangerous as a spark from another. Many fires have started from a spark flying from a metal tool in service; this may happen any time. That is why some of the more progressive firms will not allow ordinary steel or iron tools to be used in the finishing room. They have discovered that tools are available which are made of a special bronze, which is non-sparking, and that such tools are supplied in spray booth kits—as well as being available separately—and they insist that their men use these bronze tools at all times.

Letters from I. F. Readers

(Continued from page 6)

lacquer finish that would protect the bright, smooth, metal work against tarnishing for a year or so at least. His answer, under date of April 28, follows:

"We had some correspondence from several people, but it has not developed the existence of any clear lacquer suitable for outside exposure on metal. However, we have gotten in touch with two or three concerns about other types of material and are at present trying out two different liquid wax solutions as temporary protection."—B. S. E. Co.

Sound Deadener Paint

With reference to the inquiry regarding deadener paint used by Nash Motors, as requested by the G. D. Mchry. Co., (page 30, April issue) we are pleased to advise that this is the "Insulmat" as manufactured by our company. We are sending you two copies of specification sheets covering this material, and shall be pleased to give your customer or reader any additional information wanted.

The writer shall be glad to give them the necessary service, and would appreciate your having them write directly to me.—E. A. Johnson, Service Engineer, J. W. M. Co. (Paints & Varnishes)

Brine Tank Paint

Will you please tell us what is the most durable, lasting paint to use on the inside of a metal brine tank?—I. M. H. Co. (Water Softeners).

Better Polishing Machines

Acknowledging your letter of the 17th (wherein you asked what makes of portable polishing machines are used in factories and large refinishing shops), it has been our observation that there are very few, if any, portable polishing machines being used in the furniture and general industrial finishing plants. While these flexible shaft polishing and buffing machines are great labor savers, their big disadvantage is that they leave fine circular scratches in the film that show up in the final finish much more than manual sanding and polishing in one general plane.

These machines are being tried out in some of the motor car production plants, but if you will closely examine the finishes on the cars where

these machines are used in place of manual labor, you will find the character of finish is not as good. Probably if labor costs had not dropped to their present low level we would find more of these polishing machines in operation, irrespective of all the recent agitation on technocracy.

Unquestionably, some day someone will find ways and means of overcoming the objection of the circular scratches referred to and, if they offer them to the trade at a fair price, they will, undoubtedly, become used universally, not only in the furniture and industrial production shops, but the majority of the automobile repaint shops.—From the Sales Manager attached to Automotive Division of Industrial Sales Dept. of a nationally known firm.

Aniline Chloride, Galls, Wanted

On page 24 of your March issue, there is an article on how to "Ebonize" light-colored hardwood, and I would ask you kindly to advise us as to where I could secure Aniline Chloride, and also Galls. We will appreciate this information very much.—U. O.-E. Products Co., (Reglaze Colors for Kid and Calf Footwear).

Classified Advertising

Advertisements under this heading 45 cents a line per insertion, minimum charge, $1.35. In estimating, calculate six words to one line, and add one additional line for heading. Use this department to obtain help, find positions, buy and sell equipment, dispose of manufacturing properties, etc.

FINISHING FOREMAN

Desires position. Several years with prominent firms. Store, office, bank fixtures, antique and novelty furniture. Can match any color and finish. Understands modern methods, equipment and production. Can handle any number of men. Salary and location no object. Address IF-472, care Industrial Finishing.

SALES HELP WANTED

Well organized small company in New Jersey manufacturing complete line lacquer finishing materials. Territories: upper New York state, New Jersey and Pennsylvania. Straight commission, no objection to carrying allied line. Must have finished material sales experience. Close cooperation in every respect. Address IF-474, care Industrial Finishing.

INDUSTRIAL SALESMEN WANTED

Throughout United States with established accounts, to represent expanding firm manufacturing lacquer, varnish, enamel, etc. Extremely liberal straight commission basis on high quality, low priced materials. Advise experience, references, territory covered, etc. U. S. LACQUER & CHEMICAL CO., St. Louis, Mo.

DISTRICT SALES MANAGER

Well-known manufacturer of industrial finishes desires salesman of executive ability to sell and to supervise salesmen. Must be well versed in the industry, having had selling experience, and established trade. State experience and references. Address IF-473, care Industrial Finishing.

THREE DeVILBISS SPRAY

Guns for sale. Guaranteed, just like new. Cheap for a quick cash sale. Sent on approval. Address IF-471, care Industrial Finishing.

FINISHING FOREMAN

Wanted by an Indiana furniture manufacturer. Must have wide experience and thorough knowledge and be able to move to Indiana. State experience and references in reply. Address IF-469, care Industrial Finishing.

Compressors Elec. Motors
Rubbing Machines

Spray Equipment **USED** Woodworking Machines

Address IF-470
Care Industrial Finishing Magazine

MARVELOUS NEW PAINT SPRAY GUN

Requires no air regulator, handles all types paint, lacquer, etc. Lighter in weight, widest spray, perfect atomization; also air purifiers, 5 and 10 gal. pressure outfits, accessories, etc. Write for Catalog and prices. THE ALEXANDER MILBURN CO., 1416-18 W. Baltimore St., Baltimore, Md.